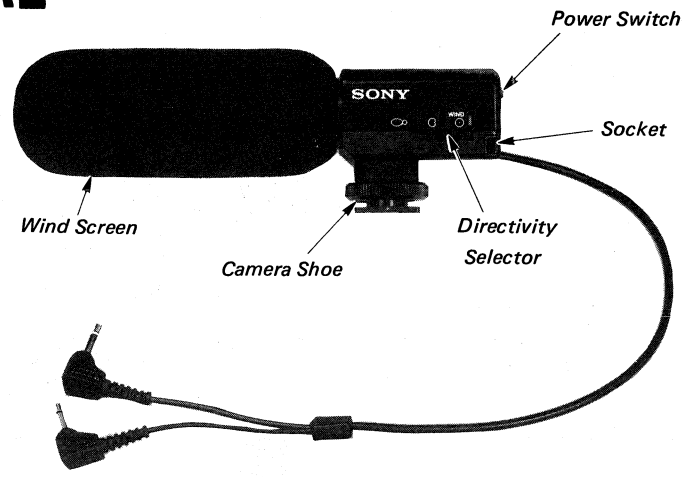
ECM-K120

SERVICE MANUAL

E Model



SPECIFICATIONS

General

Type
Electret condenser microphone
Microphone output plug
L-shaped miniplug
Battery
Alkaline-manganese battery IEC designation LR44
Dimensions
ϕ36×47×137.5mm(w/h/d)
Weight
Approx. 43g(1.52oz)
Supplied accessories
Double-plug connecting cord (1)
Single-plug connecting cord (1)
Sony Alkaline-manganese battery LR-44
Carrying case (1)

Performance

Frequency response
Narrow angle : 300—8,000Hz
Uni-directional : 200—10,000Hz
Omni-directional : 150—15,000Hz
Output impedance
400Ω±30% unbalanced
Output level (deviation±4dB)

	Open circuit voltage*1
Narrow angle	-52 dB
Uni-directional	-64 dB
Omni-directional	-67 dB

*1 0dB=1V/1μbar, 1,000Hz

Power requirements
Normal operating voltage : 1.5V
Current drain : Less than 1mA
Battery life : Apporx.100 hours with Sony LR44
Maximum sound pressure input level*2
More than 100dB SPL

*2 The mean value is taken and converted to the equivalent input sound level. 0dB SPL=2×10^{-4}μbar

Environmental temperatures
0°C to +60°C (+32°F to +140°F) for operation

FEATURES

3 types of directivity to pick up sounds are selectable.

Vibration-resistant construction reduces the contact noise or vibration noise from the camera recorder.

This unit can operate on external power supplied from a video camera recorder.

ELECTRET CONDENSER MICROPHONE

SONY®

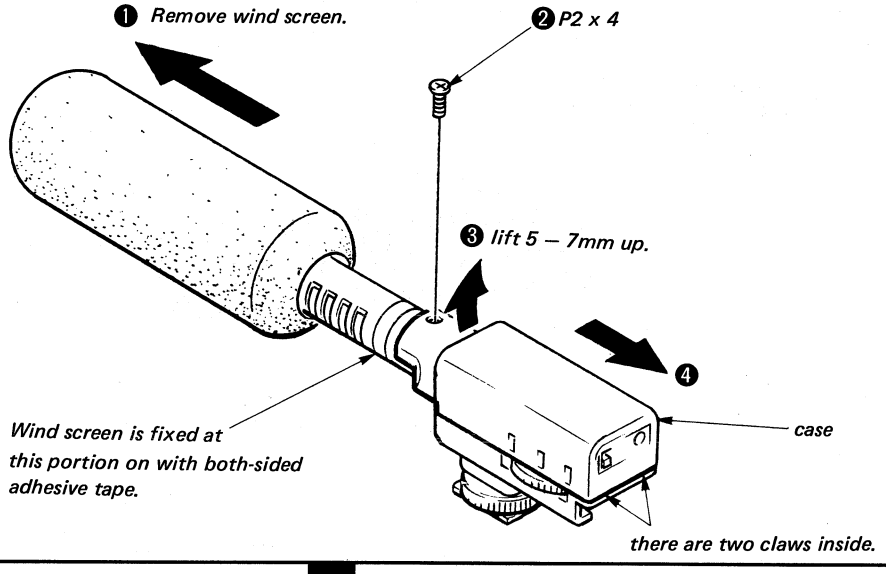
MICROFILM

ACC

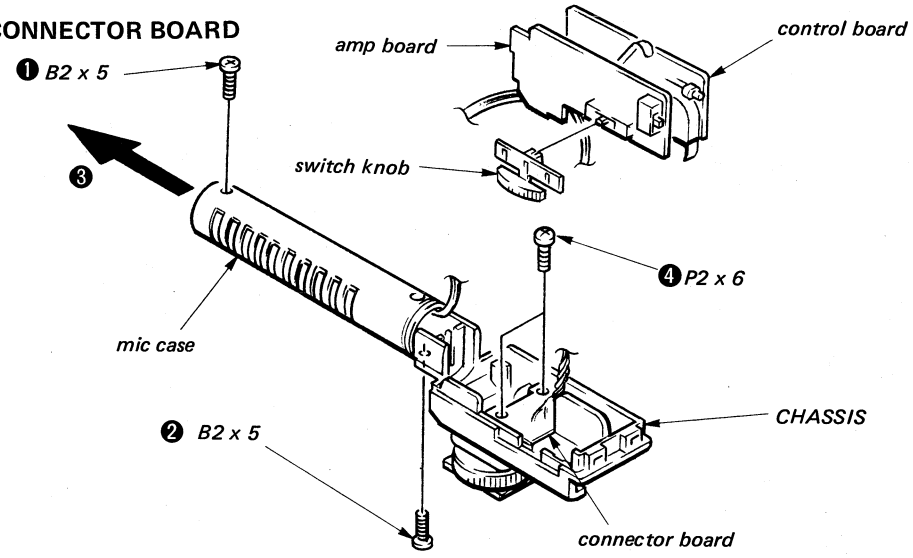
1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

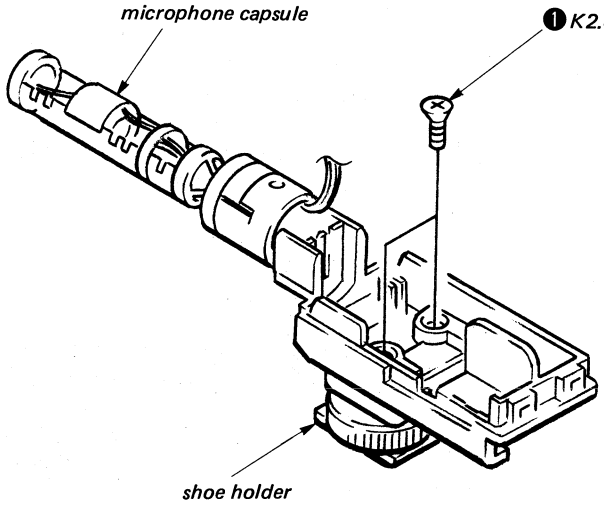
CASE


❶ Remove wind screen.
❷ P2 x 4
❸ lift 5 – 7mm up.
❹
Wind screen is fixed at this portion on with both-sided adhesive tape.
case
there are two claws inside.

MIC CASE and CONNECTOR BOARD



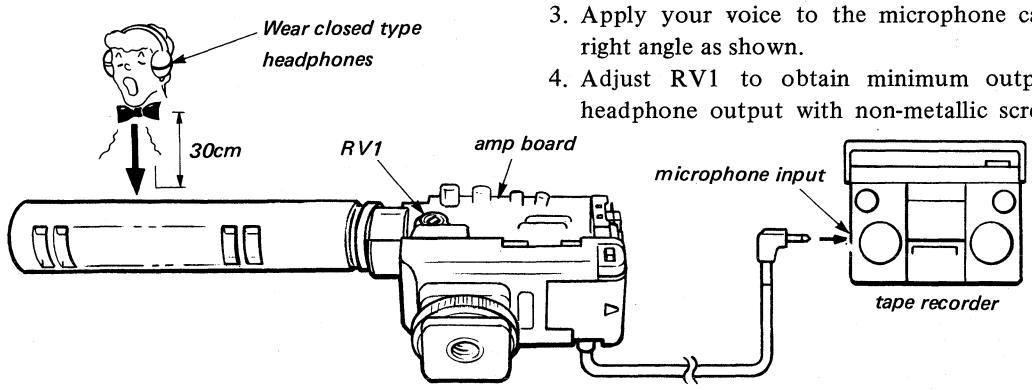
SHOE HOLDER



2. DIRECTIVITY ADJUSTMENT

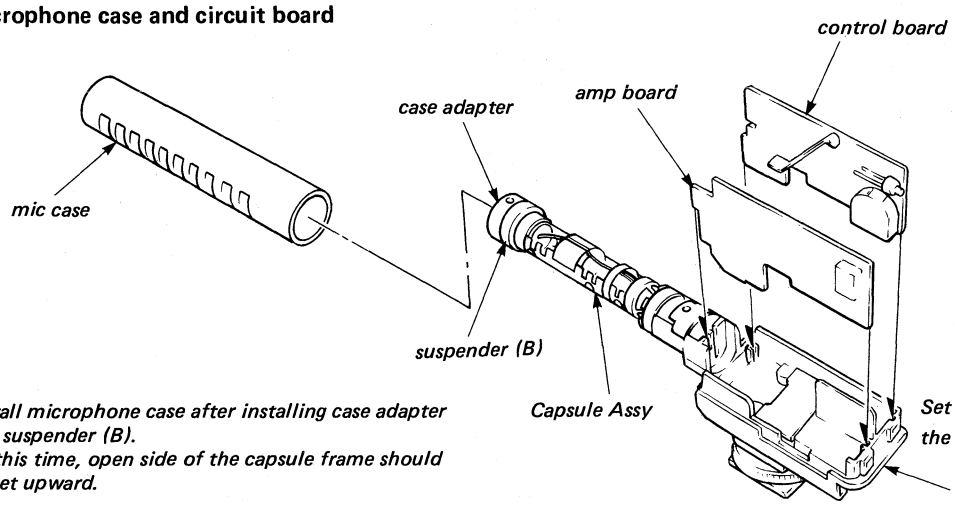
This adjustment should be made when replacing parts.
Microphone capsule assy, R7, R8, R9 and Q1.

1. Set switch directivity to Narrow angle (∞) position.
2. Connect to microphone input of the tape recorder.
3. Apply your voice to the microphone capsule at right angle as shown.
4. Adjust RV1 to obtain minimum output form headphone output with non-metallic screwdriver.



3. NOTE ON INSTALLATION

microphone case and circuit board

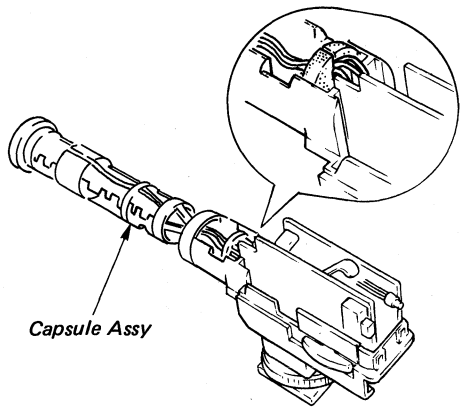


Install microphone case after installing case adapter and suspender (B).
At this time, open side of the capsule frame should be set upward.

Set the boards to the groove chassis.

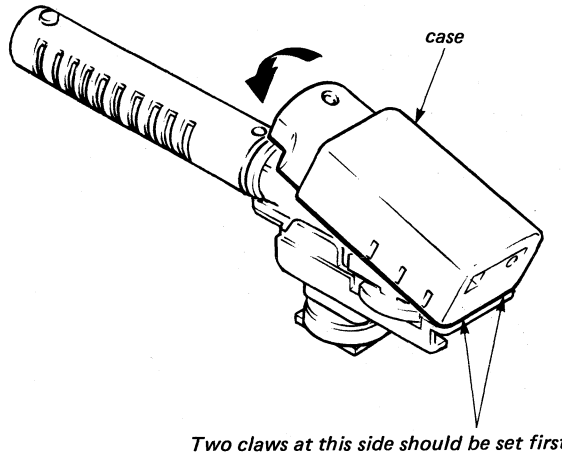
lead wires

Put in lead wires from the microphone capsule with some looseness.

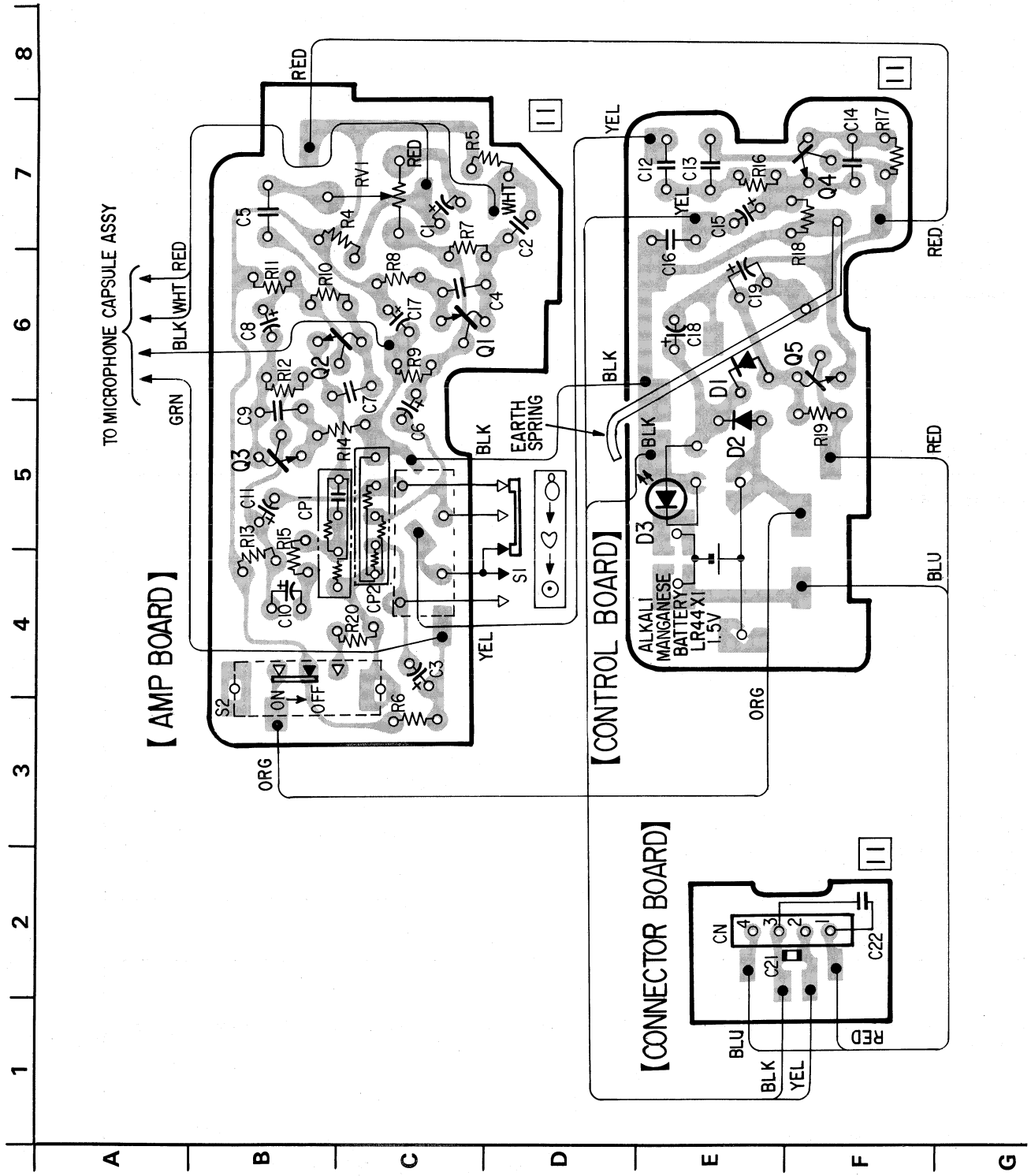


Case

Pay attention not to pinch the lead wires when the case putting on.

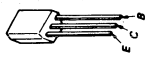


4. MOUNTING DIAGRAM

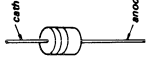


- **Semiconductor Lead Layouts**

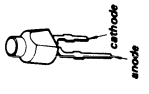
2SA1048L
2SC634SP



1SS119

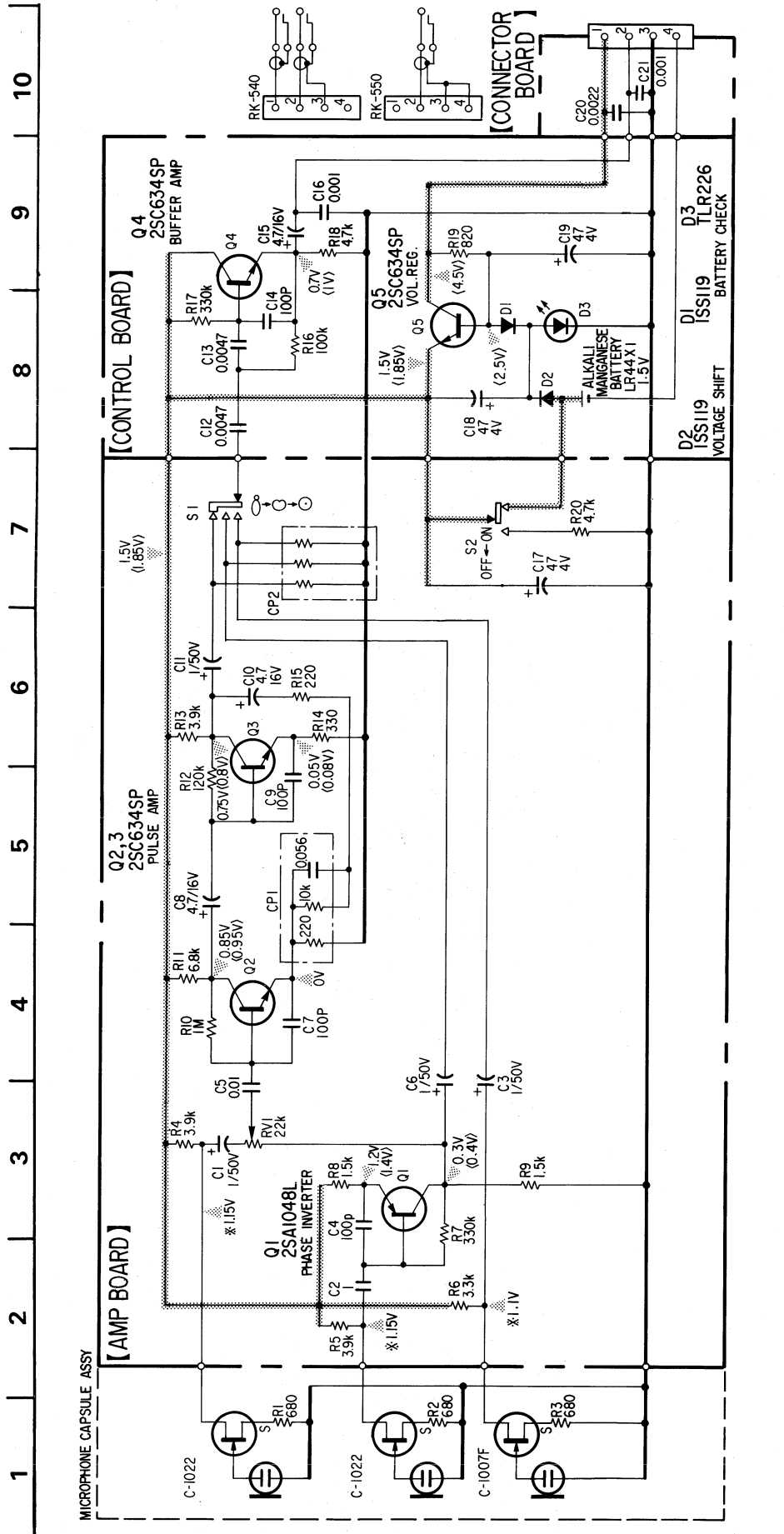


TLR226



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.

5. SCHEMATIC DIAGRAM

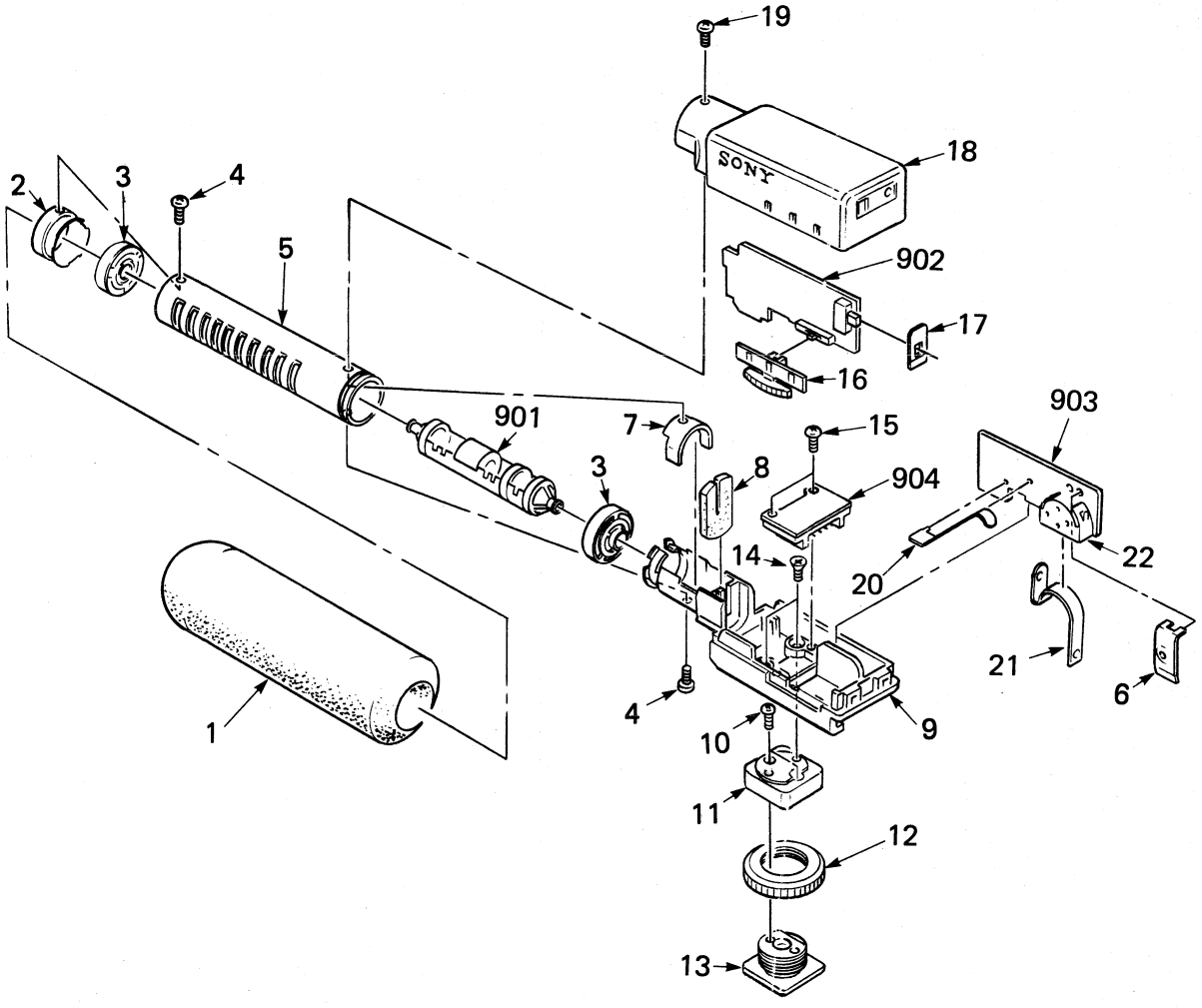


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/6W or less unless otherwise specified.
- ▨ : B+ bus.
- Readings are taken under no-signal conditions with a VOM (50kΩ).
  no mark: RK550
  < > : RK540
  ※ : differed by microphone assy

6. EXPLODED VIEW AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color



No.	Part No.	Description	Remark
1	2-533-685-01	SCREEN, WIND	
2	*2-533-695-01	CASE ADPTER	
3	2-536-729-02	SUSPENDER (B)	
4	4-908-792-51	SCREW B2X5	
5	*2-533-690-01	CASE, MIC	
6	2-526-109-00	TERMINAL, -	
7	*2-533-688-01	NUT, CHASSIS	
8	9-911-844-XX	PARTITION	
9	2-533-699-01	CHASSIS	
10	7-685-104-14	SCREW +P 2X6, TYPE2 (SLIT)	
11	2-533-691-01	DAMPER, SHOE	
12	2-533-693-01	KNOB, FIXED	
13	2-533-697-01	HOLDER, SHOE	
14	7-627-454-37	SCREW +2.6X5	
15	7-685-104-14	SCREW +P 2X6, TYPE 2 SLIT	
16	2-533-694-01	KNOB	
17	2-533-682-01	COVER, SWITCH	
18	2-533-698-01	CASE	
19	7-627-553-48	SCREW +P 2X4.0, TYPE 1	
20	*2-539-313-01	SPRING EARTH	
21	2-533-681-01	BELT	
22	2-526-108-00	TERMINAL, +	
901	A-4510-070-A	CAPSULE ASSY	
902	*1-621-498-11	PC BOARD, AMP	
903	*1-621-499-11	PC BOARD, CONT	
904	A-4518-288-A	MOUNTED PCB CONNECTOR	

7. ELECTRICAL PARTS LIST

NOTE:

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

ELECTRICAL PARTS

Ref. No.	Part No.	Description			
901	A-4510-070-A	CAPSULE ASSY			
902	*1-621-498-11	AMP BOARD			
903	*1-621-499-11	CONTROL BOARD			
904	A-4518-288-A	CONNECTOR MOUNT			
C1	1-124-255-00	ELECT	1MF	20%	50V
C2	1-124-499-11	ELECT	1MF	20%	50V
C3	1-124-255-00	ELECT	1MF	20%	50V
C4	1-102-106-00	CERAMIC	100PF	10%	50V
C5	1-136-153-00	MYLAR	0.01MF	10%	50V
C6	1-124-255-00	ELECT	1MF	20%	50V
C7	1-102-106-00	CERAMIC	100PF	10%	50V
C8	1-124-245-00	ELECT	4.7MF	20%	16V
C9	1-102-106-00	CERAMIC	100PF	10%	50V
C10	1-124-245-00	ELECT	4.7MF	20%	16V
C11	1-124-255-00	ELECT	1MF	20%	50V
C12	1-136-149-00	MYLAR	0.0047MF	10%	50V
C13	1-136-149-00	MYLAR	0.0047MF	10%	50V
C14	1-102-106-00	CERAMIC	100PF	10%	50V
C15	1-124-245-00	ELECT	4.7MF	20%	16V
C16	1-101-001-00	CERAMIC	0.001MF		50V
C17	1-124-432-00	ELECT	47MF	20%	4V
C18	1-124-432-00	ELECT	47NF	20%	4V
C19	1-124-432-00	ELECT	47MF	20%	4V
CP1	1-233-090-11	COMPOSIT CIRCUIT			
CP2	1-233-091-11	COMPOSIT CIRCUIT			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-812-26	DIODE TLR226			

ELECTRICAL PARTS

Ref. No.	Part No.	Description			
Q1	8-729-200-43	TRANSISTOR 2SA1048L			
Q2	8-729-600-27	TRANSISTOR 2SC634SP			
Q3	8-729-600-27	TRANSISTOR 2SC634SP			
Q4	8-729-600-27	TRANSISTOR 2SC634SP			
Q5	8-729-600-27	TRANSISTOR 2SC634SP			
R4	1-247-845-00	CARBON	3.9K	5%	1/6W
R5	1-247-845-00	CARBON	3.9K	5%	1/6W
R6	1-249-423-11	CARBON	3.3K	5%	1/6W
R7	1-247-891-00	CARBON	330K	5%	1/6W
R8	1-249-419-11	CARBON	1.5K	5%	1/6W
R9	1-249-419-11	CARBON	1.5K	5%	1/6W
R10	1-247-903-00	CARBON	1M	5%	1/6W
R11	1-247-851-00	CARBON	6.8K	5%	1/6W
R12	1-247-881-00	CARBON	120K	5%	1/6W
R13	1-247-845-00	CARBON	3.9K	5%	1/6W
R14	1-247-819-00	CARBON	330	5%	1/6W
R15	1-247-815-00	CARBON	220	5%	1/6W
R16	1-249-441-11	CARBON	100K	5%	1/6W
R17	1-247-891-00	CARBON	330K	5%	1/6W
R18	1-247-847-00	CARBON	4.7K	5%	1/6W
R19	1-247-829-00	CARBON	820	5%	1/6W
R20	1-247-847-00	CARBON	4.7K	5%	1/6W
RV1	1-230-067-00	RES, VAR, CARBON 22K			
S1	1-570-724-11	SWITCH, SLIDE (DIRECTIVITY)			
S2	1-554-025-00	SWITCH, SLIDE (POWER)			

ACCESSORY & PACKING MATERIAL

Part No.	Description
2-539-309-02	INDIVIDUAL CARTON
2-539-311-03	LID, TRANSPARENT
2-539-314-03	PLATE, LID
2-539-310-02	CARRYING, CASE
2-599-294-12	MANUAL, INSTRUCTION
1-559-053-11	CORD, CONNECTION (RK-540)
1-559-054-11	CORD, CONNECTION (RK-550)
2-539-315-01	LABEL
	BATTERY (LR44)